What is claimed is:

1. An etching method for use in integrated circuit fabrication, the method comprising the steps of:

providing a metal nitride layer on a substrate assembly;

providing regions of cobalt silicide on first portions of the metal nitride layer;

providing regions of cobalt on second portions of the metal nitride layer; and

removing the regions of cobalt and the second portions of the metal nitride layer with at least one solution including a mineral acid and a peroxide.

2. The method according to claim 1, wherein the mineral acid is selected from the group including HCl, H_2SO_4, H_3PO_4, HNO_3, and dilute HF.

3. The method according to claim 2, wherein the mineral acid is HCl.

4. The method according to claim 1, wherein the peroxide is hydrogen peroxide.

5. The method according to claim 1, wherein the removing step includes removing the regions of cobalt and the second portions of the metal nitride layer with a single solution including a mineral acid and a peroxide.

6. The method according to claim 1, wherein the removing step includes:

removing the regions of cobalt with a first solution containing a mineral acid and a peroxide; and

removing the second portions of the metal nitride layer with a second solution containing a peroxide.

7. An etching method for use in integrated circuit fabrication, the method comprising the steps of:

providing a metal nitride layer on a substrate assembly;

providing regions of cobalt silicide on first portions of the metal nitride layer;

providing regions of cobalt on second portions of the metal nitride layer; and

removing the regions of cobalt and the second portions of the metal nitride layer with a solution including a mineral acid and a peroxide.

8. The method according to claim 7, wherein the mineral acid is selected from the group including HCl, H_2SO_4, H_3PO_4, HNO_3, and dilute HF.

9. The method according to claim 8, wherein the mineral acid is HCl.

10. The method according to claim 7, wherein the peroxide is hydrogen peroxide.

11. The method according to claim 7, wherein the solution includes a ratio in a range of about 1:1:35 (mineral acid:peroxide:deionized water) to about 1:1:5 (mineral acid:peroxide:deionized water).

12. The method according to claim 11, wherein the solution includes a ratio in a range of about 1:1:25 (mineral acid:peroxide:deionized water) to about 1:1:10 (mineral acid:peroxide:deionized water).

13. An etching method for use in integrated circuit fabrication, the method comprising the steps of:

providing a metal nitride layer on a substrate assembly;

providing regions of cobalt silicide on first portions of the metal nitride layer;

providing regions of cobalt on second portions of the metal nitride layer;

removing the regions of cobalt with a first solution containing a mineral acid; and

removing the second portions of the metal nitride layer with a second solution containing a peroxide.

14. The method according to claim 13, wherein the mineral acid is selected from the group including HCl, H_2SO_4, H_3PO_4, HNO_3, and dilute HF.

15. The method according to claim 14, wherein the mineral acid is HCl.

16. The method according to claim 13, wherein the peroxide is hydrogen peroxide.

17. The method according to claim 13, wherein the first solution includes a ratio in a range of about 1:1:300 (mineral acid:peroxide:deionized water) to about 1:1:70 (mineral acid:peroxide:deionized water).

18. The method according to claim 17, wherein the first solution includes a ratio in a range of about 1:1:200 (mineral acid:peroxide:deionized water) to about 1:1:100 (mineral acid:peroxide:deionized water).

19. The method according to claim 13, wherein the second solution includes a ratio in a range of about 1:50 (peroxide:deionized water) to about 1:1 (peroxide:deionized water).

20. The method according to claim 19, wherein the second solution includes a ratio in a range of about 1:10 (peroxide:deionized water) to about 1:5 (peroxide:deionized water).

21. The method according to claim 13, wherein the second solution includes a ratio in a range of about 0.05:1:6 (mineral acid:peroxide:deionized water) to about 1:1:6 (mineral acid:peroxide:deionized water).

22. An etching method for use in integrated circuit fabrication, the method comprising the steps of:

providing a titanium nitride layer on a substrate assembly;

providing regions of cobalt silicide on first portions of the titanium nitride layer;

providing regions of cobalt on second portions of the titanium nitride layer; and

removing the regions of cobalt and the second portions of the titanium nitride layer with a solution including a mineral acid and a peroxide.

22. The method according to claim 21, wherein the mineral acid is HCl and the peroxide is hydrogen peroxide.

23. The method according to claim 22, wherein the solution includes a ratio in a range of about 1:1:35 (HCl:hydrogen peroxide:deionized water) to about 1:1:5 (HCl:hydrogen peroxide:deionized water).

24. An etching method for use in integrated circuit fabrication, the method comprising the steps of:

providing a titanium nitride layer on a substrate assembly;

providing regions of cobalt silicide on first portions of the titanium nitride layer;

providing regions of cobalt on second portions of the titanium nitride layer;

removing the regions of cobalt with a first solution containing a mineral acid and a peroxide; and

removing the second portions of the titanium nitride layer with a second solution containing a peroxide.

25. The method according to claim 24, wherein the mineral acid of the first solution is HCl and the peroxide is hydrogen peroxide.

26. The method according to claim 24, wherein the first solution includes a ratio in a range of about 1:1:300 (HCl:hydrogen peroxide:deionized water) to about 1:1:70 (HCl:hydrogen peroxide:deionized water).

27. The method according to claim 24, wherein the peroxide of the second solution is hydrogen peroxide.

28. The method according to claim 27, wherein the second solution includes a ratio in a range of about 1:50 (peroxide:deionized water) to about 1:1 (peroxide:deionized water).

29. A method for use in patterning a stack including cobalt silicide, the method comprising the steps of:

providing a layer of cobalt, regions of silicon, and a conductive diffusion barrier;

reacting the layer of cobalt and regions of silicon using thermal processing resulting in the stack including cobalt silicide and the conductive diffusion barrier and further resulting in unreacted cobalt overlying removable regions of the conductive diffusion barrier; and

removing the unreacted cobalt and removable regions of the conductive diffusion barrier using at least one solution including a mineral acid and a peroxide.

30. The method according to claim 29, wherein the removing step includes removing the unreacted cobalt using a first solution including a mineral acid and a peroxide with the removable regions of the conductive diffusion barrier being an etch stop.

31. The method according to claim 30, wherein the removing step further includes removing the removable regions of conductive diffusion barrier using a second solution including a peroxide.

32. The method according to claim 29, wherein the mineral acid is HCl and the peroxide is hydrogen peroxide.

33. A method for use in integrated circuit fabrication, the method comprising the steps of:

providing a metal nitride layer on a substrate assembly;

providing a layer of cobalt on the metal nitride layer;

providing a layer of silicon on the cobalt layer;

patterning the silicon layer resulting in exposed portions of cobalt and unexposed portions of cobalt;

performing a thermal treatment to form cobalt silicide from the unexposed portions of cobalt over first portions of the metal nitride layer with unreacted cobalt resulting over second portions of the metal nitride layer; and

removing the unreacted cobalt and the second portions of the metal nitride layer with at least one solution including a mineral acid and a peroxide.

34. The method according to claim 33, wherein the removing step includes removing the unreacted cobalt and the second portions of the metal nitride layer with a single solution including HCl and hydrogen peroxide.

35. The method according to claim 33, wherein the removing step includes:

removing the unreacted cobalt with a first solution including HCl and hydrogen peroxide; and

removing the second portions of the metal nitride layer with a second solution including hydrogen peroxide.

36. An etching composition, the composition comprising a mineral acid, a peroxide, and deionized water.

37. The etching composition according to claim 36, wherein the mineral acid is HCl and the peroxide is hydrogen peroxide.

38. The composition according to claim 36, wherein the composition includes a ratio in a range of about 1:1:35 (mineral acid:peroxide:deionized water) to about 1:1:5 (mineral acid:peroxide:deionized water).

39. The composition according to claim 38, wherein the composition includes a ratio in a range of about 1:1:25 (mineral acid:peroxide:deionized water) to about 1:1:10 (mineral acid:peroxide:deionized water).

40. A method of forming a word line for a memory device, the method comprising the steps of:

selectively oxidizing the surface of a substrate assembly to form at least one active area and field oxide regions;

forming a gate film in the active area;

forming a conductive silicon layer over the gate film;

forming a metal nitride layer over the conductive silicon layer;

forming a cobalt layer over the metal nitride layer;

forming a layer of silicon over the cobalt layer;

forming a cap layer over the layer of silicon;

patterning the cap layer and layer of silicon over first portions of the cobalt layer overlying first portions of the metal nitride layer to define the word line at least in part over the gate film in the active area of the memory device while exposing second portions of the cobalt layer overlying second portions of the metal nitride layer;

performing an anneal to react the first portions of the cobalt layer with the layer of silicon;

removing the second portions of cobalt and the second portions of the metal nitride layer with at least one solution including a mineral acid and a peroxide, such removal resulting in exposed portions of the conductive silicon layer; and

removing the exposed portions of the conductive silicon layer.

41. The method according to claim 40, wherein the step of removing the second portions of cobalt silicide and metal nitride layer includes removing the second portions of cobalt and the second portions of the metal nitride layer with a single solution including HCl and hydrogen peroxide.

42. The method according to claim 40, wherein the step of removing the second portions of cobalt silicide and metal nitride layer includes:

removing the second portions of cobalt with a first solution including HCl and hydrogen peroxide; and

removing the second portions of the metal nitride layer with a second solution including hydrogen peroxide.

43. A method of forming a local interconnect for a memory device, the method comprising the steps of:

selectively oxidizing the surface of a substrate to form one or more active areas and field oxide regions;

forming a gate region, source region, and drain region in the one or more active areas;

forming one of at least a portion of a bit line and a word line; and

forming an interconnect to connect at least two of the gate region, source region, drain region, bit line, and word line, the forming of the interconnect step comprising the steps of:

forming a metal nitride layer over at least an oxide provided between the at least two of the gate region, source region, drain region, bit line, and word line,

forming a cobalt layer over the metal nitride layer,

forming a layer of silicon over the cobalt layer,

patterning the layer of silicon over first portions of the cobalt layer overlying first portions of the metal nitride layer to define the interconnect while

exposing second portions of the cobalt layer overlying second portions of the metal nitride layer,

performing an anneal to react the first portions of the cobalt layer with the patterned layer of silicon, and

removing the second portions of cobalt and the second portions of the metal nitride layer with at least one solution including a mineral acid and a peroxide.

44. The method according to claim 43, wherein the removing step includes removing the second portions of cobalt and the second portions of the metal nitride layer with a single solution including HCl and hydrogen peroxide.

45. The method according to claim 43, wherein the removing step includes:

removing the second portions of cobalt with a first solution including HCl and hydrogen peroxide; and

removing the second portions of the metal nitride layer with a second solution including hydrogen peroxide.

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